

In the Claims:

Please amend the claims as follows:

1. (Previously Presented) A method of operating a fuel cell having a PEM as the electrolyte, an anode on one side of the PEM, a cathode on the other side of the PEM, an external electric circuit connecting the anode and cathode, and a primary electricity using device within the external circuit, comprising the steps of:

A. providing a hydrogen containing fuel to the anode and an oxygen containing oxidant to the cathode to generate, for a first period of time, an electric current within the external circuit for operating the primary electricity using device, the cell operating conditions being selected such that, during the course of said first period of time, the cathode potential is maintained above 0.66 volt and cell performance decreases;

B. regenerating the cell after Step A by a) providing a hydrogen containing fuel to the anode while operating said cell using procedures selected to reduce the cathode potential to below 0.50 volt, said procedures including the steps of i) stopping the flow of oxidant to the cell, ii) disconnecting the primary electricity using device and replacing it with a battery in the external circuit, and iii) providing a flow of hydrogen containing gas to the cathode, and b) maintaining the cathode potential below the said 0.50 volt for a second period of time sufficient to essentially restore the cell performance decrease which occurred during the course of Step A; and,

C. sequentially repeating Steps A and B to reduce the decrease in cell performance over time.

2. (Original) The method according to claim 1, wherein in Step B the cathode potential is maintained at 0.1 volt or less for said second period of time.

3-7 (Previously canceled)

8. (Previously Presented) A method of operating a fuel cell having a PEM as the electrolyte, an anode on one side of the PEM, a cathode on the other side of the PEM, an external electric circuit connecting the anode and cathode, and a primary electricity using device within the external circuit, comprising the steps of:

A. providing a hydrogen containing fuel to the anode and an oxygen containing oxidant to the cathode to generate, for a first period of time, an electric current within the external circuit for operating the primary electricity using device, the cell operating conditions being selected such that, during the course of said first period of time, the cathode potential is maintained above 0.66 volt and cell performance decreases;

B. regenerating the cell after Step A by a) providing a hydrogen containing fuel to the anode while operating said cell using procedures selected to reduce the cathode potential to below 0.50 volt, said procedures including the steps of i) stopping the flow of oxidant to the cell and replacing it with a flow of inert gas, and ii) disconnecting the primary electricity using device from the circuit and leaving the circuit open until the cathode potential falls to below 0.5 volt, and b) maintaining the cathode potential below the said 0.50 volt for a second period of time sufficient to essentially restore the cell performance decrease which occurred during the course of Step A; and,

C. sequentially repeating Steps A and B to reduce the decrease in cell performance over time.

9. (Original) The method according to claim 8, wherein in Step B the cathode potential is maintained at 0.1 volt or less for said second period of time.

10-21. (Cancel)